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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,986	12/19/2001	Jaë Yong Park	049128-5052	1161
9629 7590 01/16/2008 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			EXAMINER ROY, SIKHA	
			ART UNIT 2879	PAPER NUMBER
			MAIL DATE 01/16/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/020,986	PARK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sikha Roy	2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26,28,29,31,32 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26,28,29,31,32 and 35-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/21/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

Cancellation of claims 10-18, 27, 30 and 33 has been entered.

Claims 26, 28, 29, 31, 32 and 35-42 are currently pending in the instant application.

### ***Claim Objections***

Claims 31 and 32 are objected to because of the following informalities:

In claims 31 and 32, line 10, 'thin film expose' should be replaced by -- thin film exposes---.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 35,36, 38,39 and 41,42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 35, 38 and 41 recite the limitation "the heat-exhausting layer" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 36, 39 and 42 are rejected because of their dependency status from claims 35, 38 and 41 respectively.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26, 28, 29, 31,32, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants' admitted prior art (AAPA) in view of U.S. Patent 5,811,177 to Shi et al.

Regarding claim 26, applicants' admitted prior art discloses (specification page 4 Fig. 1) an electroluminescent device comprising a transparent substrate 1, a plurality of pixel areas including plurality of scanning lines and data lines formed on the substrate, plurality of pixel electrodes 2a formed on the plurality of pixel areas, electroluminescent

layer 3 stacked multi-layer comprising 3a, 3b and 3c formed over the pixel electrodes, a metal electrode 4 formed on the stacked multi-layer of the electroluminescent layer, a protective film 5 over the metal electrode, a flat seal cover plate 7 for sealing the EL layer and the metallic electrode 4 and a sealant 6 for adhering the edge of the flat seal cover plate 7 to the transparent substrate 1, the sealant having (enclosing) a space for injecting an inactive gas. Furthermore Applicants' admitted prior art discloses (Fig. 1 page 4 [0013]) a moisture absorbing agent 8 formed of fine powder containing any one of BaO, CaCO<sub>3</sub>, silica-gel, alumina is provided at the inside of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electroluminescent layer.

Claim 26 differs from applicants' admitted prior art in that applicants' admitted prior art does not disclose a metal thin film provided under the flat seal cover plate 7, the entire surface of the metal thin film contacting the flat seal cover plate.

Shi in relevant art of electroluminescent organic devices discloses (Fig. 4, column 3 lines 40-63) discloses a metal thin film layer 26 (such as aluminum) under the seal cover plate (epoxy encapsulant) 28, wherein the entire surface of the metal plate 26 contacts the seal plate. The use of aluminum for good heat conduction is well known in the art. Shi further discloses this metal film has low permeability of oxygen and moisture and hence yields overall structure with a better encapsulation and resistance to permeation.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to provide a thin metal film under the flat seal cover plate, metal thin film

contacting the flat seal cover plate of the device of applicants' admitted prior art, as taught by Shi et al. for better encapsulation of the device. The recitation of 'the metal thin film provided under the seal cover plate to transfer heat' has not been given patentable weight because is considered an intended use recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987). Furthermore it is noted that aluminum being very good conductor of heat, it would transfer the heat from the device.

Regarding claims 28 and 29, applicants' admitted prior art discloses (Fig.1 page 4 [0013]) a moisture absorbing agent 8 formed of fine powder containing any one of BaO, CaCO<sub>3</sub>, silica-gel, alumina is provided at the inside of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electroluminescent layer. It is further disclosed (page 4 lines 9-11) a supporting film 9 formed from semi-transmitting film is used for adhering the moisture absorbing agent to the inner side of the seal cover.

Regarding claim 31 the applicants' admitted prior art , applicants' admitted prior art discloses (specification page 4 Fig. 1) an electroluminescent device comprising a transparent substrate 1, a plurality of pixel areas including plurality of scanning lines and data lines formed on the substrate, plurality of pixel electrodes 2a formed on the

plurality of pixel areas, electroluminescent layer 3 stacked multi-layer comprising 3a, 3b and 3c formed over the pixel electrodes, a metal electrode 4 formed on the stacked multi-layer of the electroluminescent layer, a protective film 5 over the metal electrode, a flat seal cover plate 7 for sealing the EL layer and the metallic electrode 4 and a sealant 6 for adhering the edge of the flat seal cover plate 7 to the transparent substrate 1, the sealant having (enclosing) a space for injecting an inactive gas. AAPA further discloses a moisture absorbing agent 8 provided at the inner side of the flat seal cover plate opposed to the metal electrode and a semi transmissive film 9 for supporting the moisture-absorbing agent held at the inner side of the flat seal cover plate 7.

Shi in relevant art of electroluminescent organic devices discloses (Fig. 4, column 3 lines 40-63) discloses a metal thin film layer 26 (such as aluminum) under the seal cover plate (epoxy encapsulant) 28, wherein the entire surface of the metal plate 26 contacts the seal plate. The use of aluminum for good heat conduction is well known in the art. Shi further discloses this metal film has low permeability of oxygen and moisture and hence yields overall structure with a better encapsulation and resistance to permeation.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to provide a thin metal film under the flat seal cover plate, metal thin film contacting the flat seal cover plate of the device of applicants' admitted prior art, as taught by Shi et al. for better encapsulation of the device. The recitation of 'the metal thin film provided under the seal cover plate to transfer heat' has not been given patentable weight because is considered an intended use recitation. It has been held

that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987). Furthermore it is noted that aluminum being very good conductor of heat, it would transfer the heat from the device.

AAPA and Shi disclose the claimed invention except for the metal thin film exposing a portion of the flat seal cover where the moisture-absorbing agent is formed. It would have been an obvious matter of design choice to have the metal thin film adhering to the portion of the seal cover where the moisture-absorbing agent is not formed since the applicant has not disclosed that this design of the thin metal film solves any stated problem and it appears that the invention would perform equally well with the thin metal film covering the entire seal cover plate as disclosed by Shi.

Regarding claim 37 AAPA discloses the moisture-absorbing agent is containing any one of BaO, CaCO<sub>3</sub>, silica-gel, alumina.

Claim 32 essentially recites the same limitation as of claim 31 and hence is rejected by AAPA and Shi. AAPA discloses a sealant for adhering the edge of the flat seal cover plate to the transparent substrate. It would have been obvious to one of ordinary skill in the art at the time of invention to include the metal thin film of Shi adhering to the flat portion (only) of the seal cover plate of AAPA since it has been held that omission of a part of an element (metal thin film on the sides of seal cover plate) where the remaining portion performs the same function involves only routine skill.



AAPA and Shi disclose the claimed invention except for the metal thin film adhering to the portion of the flat seal cover exposing the portion of the seal cover plate where the moisture-absorbing agent is formed. It would have been an obvious matter of design choice to have the metal thin film exposing the portion of the seal cover where the moisture-absorbing agent is formed since the applicant has not disclosed that this design of the thin metal film solves any stated problem and it appears that the invention would perform equally well with the thin metal film covering the entire flat portion seal cover plate, including the portion of moisture-absorbing agent as disclosed by Shi and AAPA.

Regarding claim 40 AAPA discloses the moisture-absorbing agent is containing any one of BaO, CaCO<sub>3</sub>, silica-gel, alumina.

### ***Response to Arguments***

Applicant's arguments filed October 31, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument regarding claims 31 and 32 that AAPA and Shi do not disclose the metal thin film exposes a portion of the seal cover plate where moisture-absorbing agent is formed the Examiner respectfully submits the following. It would have been an obvious matter of design choice to have the metal thin film exposing the portion of the seal cover where the moisture-absorbing agent is formed since the applicant has not disclosed (any criticality of this design) that this design of the thin metal film solves any stated problem and it appears that the invention would

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perform equally well with the thin metal film covering the entire flat portion seal cover plate, including the portion of moisture-absorbing agent as disclosed by Shi and AAPA.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sikha Roy  
Primary Examiner  
Art Unit 2879